

=====

Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866)
217-9197 (toll free).

Reviewer: Anne Corrigan

Timestamp: [year=2007; month=11; day=25; hr=16; min=3; sec=27; ms=634;]

=====

Application No:	10560563	Version No:	1.0
-----------------	----------	-------------	-----

Input Set:

Output Set:

Started:	2007-11-02 20:08:17.088
Finished:	2007-11-02 20:08:18.594
Elapsed:	0 hr(s) 0 min(s) 1 sec(s) 506 ms
Total Warnings:	0
Total Errors:	0
No. of SeqIDs Defined:	57
Actual SeqID Count:	57

SEQUENCE LISTING

<110> Blackwell, T. Keith
An, Jae Hyung

<120> SKN-1 GENE AND PROTEINS

<130> 10276-093US1

<140> 10560563

<141> 2007-11-02

<150> PCT/US2004/19046

<151> 2004-06-14

<150> US 60/478,185

<151> 2003-06-13

<160> 57

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 85

<212> PRT

<213> Caenorhabditis elegans

<400> 1

Ala	Ser	Gly	Gln	Arg	Lys	Arg	Gly	Arg	Gln	Ser	Lys	Asp	Glu	Gln	Leu
1				5					10					15	
Ala	Ser	Asp	Asn	Glu	Leu	Pro	Val	Ser	Ala	Phe	Gln	Ile	Ser	Glu	Met
			20						25					30	
Ser	Leu	Ser	Glu	Leu	Gln	Gln	Val	Leu	Lys	Asn	Glu	Ser	Leu	Ser	Glu
		35					40					45			
Tyr	Gln	Arg	Gln	Leu	Ile	Arg	Lys	Ile	Arg	Arg	Arg	Gly	Lys	Asn	Lys
	50					55					60				
Val	Ala	Ala	Arg	Thr	Cys	Arg	Gln	Arg	Arg	Thr	Asp	Arg	His	Asp	Lys
65					70					75					80
Met	Ser	His	Tyr	Ile											
				85											

<210> 2

<211> 533

<212> PRT

<213> Caenorhabditis elegans

<400> 2

Met	Tyr	Thr	Asp	Ser	Asn	Asn	Arg	Asn	Phe	Asp	Glu	Val	Asn	His	Gln
1				5					10					15	
His	Gln	Gln	Glu	Gln	Asp	Phe	Asn	Gly	Gln	Ser	Lys	Tyr	Asp	Tyr	Pro
			20						25					30	

Gln	Phe	Asn	Arg	Pro	Met	Gly	Leu	Arg	Trp	Arg	Asp	Asp	Gln	Arg	Met
		35					40					45			
Met	Glu	Tyr	Phe	Met	Ser	Asn	Gly	Pro	Val	Glu	Thr	Val	Pro	Val	Met
	50					55					60				
Pro	Ile	Leu	Thr	Glu	His	Pro	Pro	Ala	Ser	Pro	Phe	Gly	Arg	Gly	Pro
65					70					75					80
Ser	Thr	Glu	Arg	Pro	Thr	Thr	Ser	Ser	Arg	Tyr	Glu	Tyr	Ser	Ser	Pro
				85					90					95	
Ser	Leu	Glu	Asp	Ile	Asp	Leu	Ile	Asp	Val	Leu	Trp	Arg	Ser	Asp	Ile
			100					105					110		
Ala	Gly	Glu	Lys	Gly	Thr	Arg	Gln	Val	Ala	Pro	Ala	Asp	Gln	Tyr	Glu
		115					120					125			
Cys	Asp	Leu	Gln	Thr	Leu	Thr	Glu	Lys	Ser	Thr	Val	Ala	Pro	Leu	Thr
	130					135					140				
Ala	Glu	Glu	Asn	Ala	Arg	Tyr	Glu	Asp	Leu	Ser	Lys	Gly	Phe	Tyr	Asn
145					150					155					160
Gly	Phe	Phe	Glu	Ser	Phe	Asn	Asn	Asn	Gln	Tyr	Gln	Gln	Lys	His	Gln
				165					170					175	
Gln	Gln	Gln	Arg	Glu	Gln	Ile	Lys	Thr	Pro	Thr	Leu	Glu	His	Pro	Thr
			180					185					190		
Gln	Lys	Ala	Glu	Leu	Glu	Asp	Asp	Leu	Phe	Asp	Glu	Asp	Leu	Ala	Gln
		195					200					205			
Leu	Phe	Glu	Asp	Val	Ser	Arg	Glu	Glu	Gly	Gln	Leu	Asn	Gln	Leu	Phe
	210					215					220				
Asp	Asn	Lys	Gln	Gln	His	Pro	Val	Ile	Asn	Asn	Val	Ser	Leu	Ser	Glu
225					230					235					240
Gly	Ile	Val	Tyr	Asn	Gln	Ala	Asn	Leu	Thr	Glu	Met	Gln	Glu	Met	Arg
				245					250					255	
Asp	Ser	Cys	Asn	Gln	Val	Ser	Ile	Ser	Thr	Ile	Pro	Thr	Thr	Ser	Thr
			260					265					270		
Ala	Gln	Pro	Glu	Thr	Leu	Phe	Asn	Val	Thr	Asp	Ser	Gln	Thr	Val	Glu
		275					280					285			
Gln	Trp	Leu	Pro	Thr	Glu	Val	Val	Pro	Asn	Asp	Val	Phe	Pro	Thr	Ser
	290					295					300				
Asn	Tyr	Ala	Tyr	Ile	Gly	Met	Gln	Asn	Asp	Ser	Leu	Gln	Ala	Val	Val
305					310					315					320
Ser	Asn	Gly	Gln	Ile	Asp	Tyr	Asp	His	Ser	Tyr	Gln	Ser	Thr	Gly	Gln
				325					330					335	
Thr	Pro	Leu	Ser	Pro	Leu	Ile	Ile	Gly	Ser	Ser	Gly	Arg	Gln	Gln	Gln
			340					345					350		
Thr	Gln	Thr	Ser	Pro	Gly	Ser	Val	Thr	Val	Thr	Ala	Thr	Ala	Thr	Gln
		355					360					365			
Ser	Leu	Phe	Asp	Pro	Tyr	His	Ser	Gln	Arg	His	Ser	Phe	Ser	Asp	Cys
	370					375					380				
Thr	Thr	Asp	Ser	Ser	Ser	Thr	C								

	485		490		495										
Tyr	Gln	Arg	Gln	Leu	Ile	Arg	Lys	Ile	Arg	Arg	Arg	Gly	Lys	Asn	Lys
		500					505						510		
Val	Ala	Ala	Arg	Thr	Cys	Arg	Gln	Arg	Arg	Thr	Asp	Arg	His	Asp	Lys
		515					520					525			
Met	Ser	His	Tyr	Ile											
		530													

<210> 3
 <211> 1602
 <212> DNA
 <213> Caenorhabditis elegans

<400> 3

atgtacacgg	acagcaataa	taggaacttt	gatgaagtca	accatcagca	tcaacaagaa	60
caagatttca	atggccaatc	caaatatgat	tatccacaat	tcaaccgtcc	aatgggtctc	120
cgttggcgtg	atgatcaacg	gatgatggag	tattttcatgt	cgaatgggtcc	agtagaaact	180
gttccagtta	tgccaatact	caccgagcat	ccaccagcat	ctccattcgg	tagaggacca	240
tctacagaac	gtccaaccac	atcatctcga	tacgagtaca	gttcgccttc	tctcgaggat	300
atcgacttga	ttgatgtgct	atggagaagt	gatattgctg	gagagaaggg	cacacgacaa	360
gtggctcctg	ctgatcagta	cgaatgtgat	ttgcagacgt	tgacagagaa	atcgacagta	420
gcgccactca	ctgccgaaga	gaatgctcga	tatgaagatc	tttcgaaagg	attctataat	480
ggattcttcg	agtcgttcaa	taacaatcaa	tatcagcaga	aacatcagca	acaacaacga	540
gaacaaataa	agacaccaac	tcttgaacat	ccaactcaaa	aagccgaatt	ggaagatgat	600
ctgttttgatg	aagatcttgc	tcagcttttc	gaggatgttt	caagagaaga	aggacaattg	660
aatcaactttt	ttgataataa	gcaacaacat	ccagttatca	ataatgtttc	tctgtcggaa	720
ggaattgtttt	ataatcaggc	aaatttgacc	gagatgcaag	agatgcgtga	ttcctgcaat	780
caagtttcca	tttcaacaat	tccaacaaca	tcgactgctc	aaccagagac	tttgttcaat	840
gtaaccgatt	cacagactgt	cgaacagtgg	cttccaacag	aagttgtacc	aaacgatgtg	900
ttcccaacat	ccaactacgc	ctacattgga	atgcaaaacg	acagtcttca	agcagttgta	960
tcaaattggac	agattgacta	tgatcattcc	tatcaatcca	ctggtcagac	tccactgtct	1020
cctctcatca	ttggatcttc	aggacgtcaa	cagcagactc	aaacgagccc	aggaagcgtc	1080
acagtgactg	caacagctac	tcaatcgttg	ttcgatccat	atcactcaca	gagacactcg	1140
tttagtgatt	gcactactga	ttcgtcatca	acgtgctctc	gcctctcttc	ggaatctcca	1200
cgatacacgt	cagagagctc	aaccggaact	cacgagtctc	gtttctacgg	aaagttggct	1260
ccatccagtg	gatcacgcta	ccaacgatca	tcgtctccac	gttcatcaca	atcttcgatt	1320
aagatcgcga	gagttgttcc	actggccagc	ggacaacgga	agcgtggacg	tcaatccaag	1380
gatgagcagc	tcgccagtga	caacgagctt	ccagtgtcgg	cgttccagat	ttcggagatg	1440
tcattaagcg	agttgcaaca	agtgttgaag	aacgagagtc	tcagcgagta	tcaaagacag	1500
ttgattcgca	agattcgtcg	acgcggaaag	aacaaggttg	ctgcccgcac	ttgccgtcaa	1560
agacgcacgg	atcgtcacga	caagatgtcc	cattacatct	ga		1602

<210> 4
 <211> 2615
 <212> DNA
 <213> Caenorhabditis elegans

<400> 4

aatcgttctt	cttcttatatt	tctacagctg	atgatgtttg	atgaaggttt	tattttcctt	60
gctttttcca	ccctgttaat	attattttcg	atattcccaa	aaataattcc	aaattttcag	120
tccatattca	tctggatact	tgcaacatca	tactgattt	tggtgatcag	ttcaccatcg	180
tccaacacct	caatccaatc	atcgtcatac	gatcggatca	cgacaaaaca	tcttctggac	240
aatatatcac	cgacatttag	tgagtatgac	ttgaaaagtg	catctgatca	cttttcgagc	300
cgtttttgtc	ctagggactt	tttaatgaat	cagatgtact	tttcgaattt	tttagagcaa	360
aagcagtagt	tgactttttg	aaacttaaat	taatatacaa	aactatgata	tatatatttca	420
gaaatgtaca	cggacagcaa	taataggaac	tttgatgaag	tcaaccatca	gcatcaacaa	480

```

gaacaagatt tcaatggcca atccaaatat gattatccac aattcaaccg tccaatgggt 540
ctccgttggc gtgatgatca acggatgatg gagtatttca tgtcgaatgg tccagtagaa 600
actgttccag ttatgccaat actcaccgag catccaccag catctccatt cggtagagga 660
ccatctacag aacgtccaac cacatcatct cgatacgagt acagttcgcc ttctctcgag 720
gatatcgact tgattgatgt gctatggaga agtgatattg ctggagagaa gggcacacga 780
caagtggctc ctgctgatca gtacgaatgt gatttgcaga cgttgacaga gaaatcgaca 840
gtagcgccac tcaactgccg agagaatgct cgatatgaag atctttcgaa aggattctat 900
aatggattct tcgagtcggt caataacaat caatatcagc agaaacatca gcaacaacaa 960
cgagaacaaa taaagacacc aactcttgaa catccaactc aaaaagccga attggaagat 1020
gatctgtttg atgaagatct tgctcagctt ttcgaggatg tttcaagaga agaaggacaa 1080
ttgaatcaac tttttgataa taagcaacaa catccagtta tcaataatgt ttctctgtcg 1140
gaaggaattg tttataatca ggcaaatttg accgagatgc aagagatgcg tgattcctgc 1200
aatcaagttt ccatttcaac aattccaaca acatcgactg ctcaaccaga gactttgttc 1260
aatgtaaccg attcacagac tgtcgaacag tggcttccaa cagaagttgt accaaacgat 1320
gtgttcccaa catccaacta cgcctacatt ggaatgcaaa acgacagtct tcaagcagtt 1380
gtatcaaata gacagattga ctatgatcat tcctatcaat ccaactgggtca gactccactg 1440
tctcctctca tcattggatc ttcaggacgt caacagcaga ctcaaacgag cccaggaagc 1500
gtcacagtga ctgcaacagc tactcaatcg ttgttcgatc catatcactc acagagacac 1560
tcgttttagtg attgcactac tgattcgtca tcaacgtgct ctgcctctc ttcggaatct 1620
ccacgataca cgtcagagag ctcaaccgga actcacgagt ctcgtttcta cggaaagttg 1680
gtcccatcca gtggatcacg ctaccaacga tcatcgctc caggttcac acaatcttcg 1740
attaagatcg cgagagttgt tccactggcc agcggacaac ggaagcgtgg acgtcaatcc 1800
aaggatgagc agctcgccag tgacaacgag cttccagtgt cggcgttcca gatttcggag 1860
atgtcattaa gcgagttgca acaagtgttg aagaacgaga gtctcagcga gtatcaaaga 1920
cagttgattc gcaagattcg tcgacgcgga aagaacaagg ttgctgcccg cacttgccgt 1980
caaagacgca cggatcgta cgacaagatg tcccattaca tctgagaagc cctcttttat 2040
cacataaaat ctcggtcgaa accttattaa agccacataa ttaaagataa ttaattccgc 2100
cacaataatc gtttttttct tctttgcccgt gtctcatttc attttgatct actctttcct 2160
cccttcggat tctttgattt cccagtgaiaa tacctcacc acttcaatcc ccacaaagtg 2220
agcaaccct atcttgcaac agttttatca tctcttcac ataccagtt tgataattta 2280
ttatctgatc cccatccctc tgcgcctct cattagtatc ctagtttttc atttgagccc 2340
ggagctcaga ctacatctcc gaatcatcat acaaatagat agaaacgggt ctcgtagcga 2400
aagaatacgt gcaccacacg acccccccat cctgttcacc cccatacacc tgaaaaatat 2460
gatctttaca gttatttcta ttatatcctc aaatctctcg taatatcgta tcaatttcct 2520
cttctttttt gtcattttca atttttctca aatttctcag atctattctt tttcttgtat 2580
ttttggaact tgtatccctc ctccatcccc agact 2615

```

<210> 5

<211> 23

<212> PRT

<213> *Caenorhabditis elegans*

<400> 5

```

Phe Ser Asp Cys Thr Thr Asp Ser Ser Ser Thr Cys Ser Arg Leu Ser
  1              5              10              15
Ser Glu Ser Pro Arg Tyr Thr
                20

```

<210> 6

<211> 933

<212> DNA

<213> *Caenorhabditis elegans*

<400> 6

```

atgtcacttc catctgattt tgcctcctct cttctggcat cctctaccac caccaacacc 60
accaacaccg ctccagcagc tgtcaactct tttgacgaac aagaagaaga atccaagaag 120

```

```

atactgaaca tgtaccttca aatgttcaat caacaacagg tggatcaaca cggccatcat 180
caccaacatc catacgccta ttcaggagtc tcgagcactt ttgacagagt gttcccaaca 240
tccaactacg cctacattgg aatgcaaaac gacagtcttc aagcagttgt atcaaattgga 300
cagattgact atgatcatte ctatcaatcc actgggtcaga ctccactgtc tcctctcatc 360
attggatctt caggacgtca acagcagact caaacgagcc caggaagcgt cacagtgact 420
gcaacagcta ctcaatcgtt gttcgatcca tatcactcac agagacactc gtttagtgat 480
tgcactactg attcgtcatc aacgtgctct cgcctctctt cggaatctcc acgatacacg 540
tcagagagct caaccggaac tcacgagtct cgtttctacg gaaagttggc tccatccagt 600
ggatcacgct accaacgata atcgtctcca cgttcacac aatcttcgat taagatcgcg 660
agagttgttc cactggccag cggacaacgg aagcgtggac gtcaatccaa ggatgagcag 720
ctcgccagtg acaacgagct tccagtgtcg gcgttccaga tttcggagat gtcattaagc 780
gagttgcaac aagtgttgaa gaacgagagt ctcagcgagt atcaaagaca gttgattcgc 840
aagattcgtc gacgcggaaa gaacaagggt gctgcccgc cttgccgtca aagacgcacg 900
gatcgtcacg acaagatgtc ccattacatc tga 933

```

<210> 7

<211> 310

<212> PRT

<213> *Caenorhabditis elegans*

<400> 7

```

Met Ser Leu Pro Ser Asp Phe Ala Ser Ser Leu Leu Ala Ser Ser Thr
 1          5          10          15
Thr Thr Asn Thr Thr Asn Thr Ala Pro Ala Ala Val Asn Ser Phe Asp
          20          25          30
Glu Gln Glu Glu Glu Ser Lys Lys Ile Leu Asn Met Tyr Leu Gln Met
          35          40          45
Phe Asn Gln Gln Gln Val Asp Gln His Gly His His His Gln His Pro
          50          55          60
Tyr Ala Tyr Ser Gly Val Ser Ser Thr Phe Asp Arg Val Phe Pro Thr
65          70          75          80
Ser Asn Tyr Ala Tyr Ile Gly Met Gln Asn Asp Ser Leu Gln Ala Val
          85          90          95
Val Ser Asn Gly Gln Ile Asp Tyr Asp His Ser Tyr Gln Ser Thr Gly
          100          105          110
Gln Thr Pro Leu Ser Pro Leu Ile Ile Gly Ser Ser Gly Arg Gln Gln
          115          120          125
Gln Thr Gln Thr Ser Pro Gly Ser Val Thr Val Thr Ala Thr Ala Thr
          130          135          140
Gln Ser Leu Phe Asp Pro Tyr His Ser Gln Arg His Ser Phe Ser Asp
145          150          155          160
Cys Thr Thr Asp Ser Ser Ser Thr Cys Ser Arg Leu Ser Ser Glu Ser
          165          170          175
Pro Arg Tyr Thr Ser Glu Ser Ser Thr Gly Thr His Glu Ser Arg Phe
          180          185          190
Tyr Gly Lys Leu Ala Pro Ser Ser Gly Ser Arg Tyr Gln Arg Ser Ser
          195          200          205
Ser Pro Arg Ser Ser Gln Ser Ser Ile Lys Ile Ala Arg Val Val Pro
          210          215          220
Leu Ala Ser Gly Gln Arg Lys Arg Gly Arg Gln Ser Lys Asp Glu Gln
225          230          235          240
Leu Ala Ser Asp Asn Glu Leu Pro Val Ser Ala Phe Gln Ile Ser Glu
          245          250          255
Met Ser Leu Ser Glu Leu Gln Gln Val Leu Lys Asn Glu Ser Leu Ser
          260          265          270
Glu Tyr Gln Arg Gln Leu Ile Arg Lys Ile Arg Arg Arg Gly Lys Asn
          275          280          285

```

Lys Val Ala Ala Arg Thr Cys Arg Gln Arg Arg Thr Asp Arg His Asp
290 295 300
Lys Met Ser His Tyr Ile
305 310

<210> 8
<211> 1590
<212> DNA
<213> *Caenorhabditis elegans*

<400> 8
gaatgtcact tccatctgat tttgcctcct ctctttctggc atcctctacc accaccaaca 60
ccaccaacac cgctccagca gctgtcaact cttttgacga acaagaagaa gaatccaaga 120
agatactgaa catgtacctt caaatgttca atcaacaaca ggtggatcaa cacggccatc 180
atcaccaaca tccatacgcc tattcaggag tctcgagcac ttttgacaga gtgttcccaa 240
catccaacta cgcctacatt ggaatgcaaa acgacagtct tcaagcagtt gtatcaaattg 300
gacagattga ctatgatcat tcctatcaat ccactgggtca gactccactg tctcctctca 360
tcattggatc ttcaggacgt caacagcaga ctcaaacgag cccaggaagc gtcacagtga 420
ctgcaacagc tactcaatcg ttgttcgacg catatcactc acagagacac tcgttttagtg 480
attgcactac tgattcggtc tcaacgtgct ctgcgctctc ttcggaatct ccacgataca 540
cgtcagagag ctcaaccgga actcacgagt ctcgtttcta cggaaagttg gctccatcca 600
gtggatcacg ctaccaacga tcatcgtctc cacgttcacg acaatcttcg attaagatcg 660
cgagagttgt tccactggcc agcggacaac ggaagcgtgg acgtcaatcc aaggatgagc 720
agctcgccag tgacaacgag cttccagtggt cggcgttcca gatttcggag atgtcattaa 780
gcgagttgca acaagtgttg aagaacgaga gtctcagcga gtatcaaaga cagttgattc 840
gcaagattcg tcgacgcgga aagaacaagg ttgctgcccg cacttgccgt caaagacgca 900
cggatcgtca cgacaagatg tcccattaca tctgagaagc cctcttttat cacataaaat 960
ctcggtcgaa accttattaa agccacataa ttaaagataa ttaattccgc cacaataatc 1020
gtttttttct tctttgccgt gtctcatttc attttgatct actctttcct cccttcggat 1080
tctttgattt cccagtgaag tacctcaccg acttcaatcc ccacaaagtg agcaaccctt 1140
atcttgcaac agtttttatc tctcttcacg ataccagtt tgataattta ttatctgacg 1200
cccatccctt tgtcgcctct cattagtatc ctagtttttc atttgagccc ggagctcaga 1260
ctacatctcc gaatcatcat acaaatagat agaaacgggt ctcgtagcga aagaatacgt 1320
gcaccacagc acccccccat cctgttcacc cccatacacc tgaaaaatat gatctttaca 1380
gttattttcta ttatatcctc aaatctctcg taatatcgta tcaatttcct cttctttttt 1440
gtcattttca atttttctca aatttctcag atctattctt tttcttgtat ttttggaact 1500
tgtatccctc ctccatcccc agacttcccc ttcccagtta ctcttgtaca ttttcatata 1560
tgtccatata tcgtttgaat ctctcattta 1590

<210> 9
<211> 1872
<212> DNA
<213> *Caenorhabditis elegans*

<400> 9
atgggcggtt catcacgccg tcagcgaagt acgtcggcga cgagacgaga cgataaacga 60
agacgaagac agtgcttctc ttcggtagcc gacgacgaag aagagacgac gtcaatttat 120
ggagtgtcgt ccatattcat ctggatactt gcaacatcat cactgatttt ggtgatcagt 180
tcaccatcgt ccaacacctc aatccaatca tcgtcatacg atcggatcac gacaaaacat 240
cttctggaca atatatcacc gacatttaaa atgtacacgg acagcaataa taggaacttt 300
gatgaagtca accatcagca tcaacaagaa caagatttca atggccaatc caaatatgat 360
tatccacaat tcaaccgtcc aatgggtctc cgttggcgtg atgatcaacg gatgatggag 420
tatttcatgt cgaatgggtc agtagaaact gttccagtta tgccaatact caccgagcat 480
ccaccagcat ctccattcgg tagaggacca tctacagaac gtccaaccac atcatctcga 540
tacgagtaca gttcgccttc tctcgaggat atcgacttga ttgatgtgct atggagaagt 600
gatattgctg gagagaaggg cacacgacaa gtggctcctg ctgatcagta cgaatgtgat 660

